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Date of Signature

PATENT  
Case No. DP-306837  
(7500/141)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re patent application of:

JACK R. KRIES, ET AL.

Serial No.: 10/092,320

Filed: MARCH 6, 2002

Title: HYDRAULIC ENGINE MOUNT  
WITH CENTER-CLAMPED  
DECOUPLER

Examiner: GRAHAM, MATTHEW

Group Art Unit: 3683

APPEAL BRIEF

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P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Appellants herewith respectfully present their Brief on Appeal as follows:

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1 REAL PARTY IN INTEREST

The real party in interest is Assignee Delphi Technologies, Inc., by virtue of an assignment executed by the inventors on March 4, 2002 and filed with the United States Patent and Trademark Office on March 6, 2002, recorded at reel number 012694 frame number 0030.

2. RELATED APPEALS AND INTERFERENCES

Appellants and the undersigned attorneys are not aware of any appeals or any interferences which will directly affect or be directly affected by or having a bearing on the Board's decision in the pending appeal.

3. STATUS OF CLAIMS

Claims 1-18 are currently pending and stand finally rejected as unpatentable over Yamamoto, United States Patent No. 6,505,822 in view of Hein, United States Patent No. 5,782,462. Claims 1-18 are the claims on appeal. See, Appendix.

4. REFERENCES

The Examiner cited two references against the application. Yamamoto, United States Patent No. 6,505,822 and Hein, United States Patent No. 5,782,462.

5. STATUS OF AMENDMENTS

All amendments have been entered, and no amendments were requested after final rejection. A reply under 37 C.F.R. §1.111 was filed on May 27, 2003 and entered into the application. A reply under 37 C.F.R. §1.116 was filed on October 7, 2003, and entered into the application.

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## 6. SUMMARY OF INVENTION

The invention relates to hydraulic engine mounts, and in particular to a mount that includes upper and lower orifice plates and a generally planar diaphragm having an enlarged central node and a periphery, the central node being in constant contact with the upper orifice plate and in contact with the lower orifice plate with the periphery spaced apart from at least one of the upper and lower orifice plates and free to move between the upper and lower orifice plates. An alternate embodiment of the invention includes a raised rim on the periphery of the diaphragm. Another alternate embodiment includes holes for fluid flow in the upper and lower orifice plates.

FIG. 1 illustrates one embodiment of the invention. FIG. 1 provides a cross section view of a mount in accordance with a first embodiment. As shown in FIG. 1, the mount includes a diaphragm 60. The diaphragm 60 includes an enlarged central node 82 and a periphery. FIG. 1 illustrates an embodiment of the invention including a raised rim 88 at the periphery. FIG. 2 illustrates fluid holes 50 disposed on an upper orifice plate 40.

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FIGS. 1 and 2 are reproduced on the following page for the convenience of the Board.

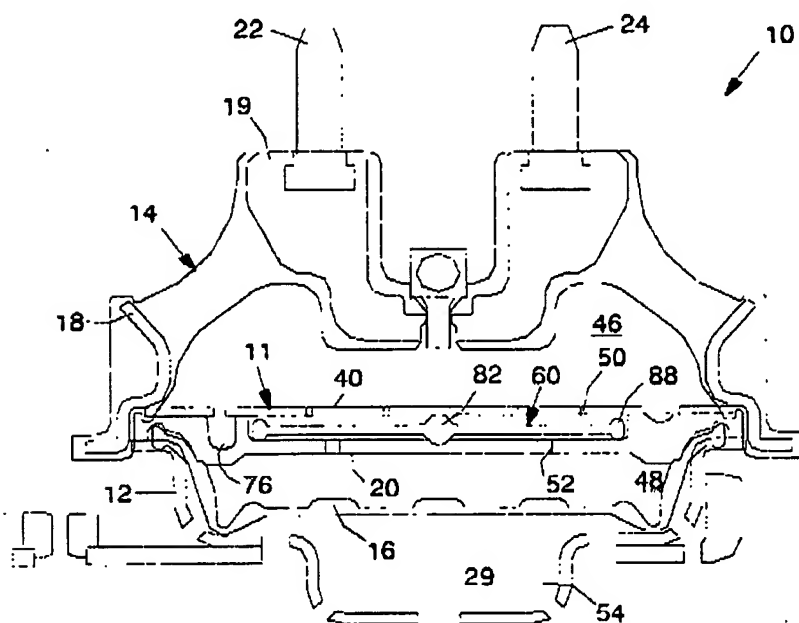


FIG. 1

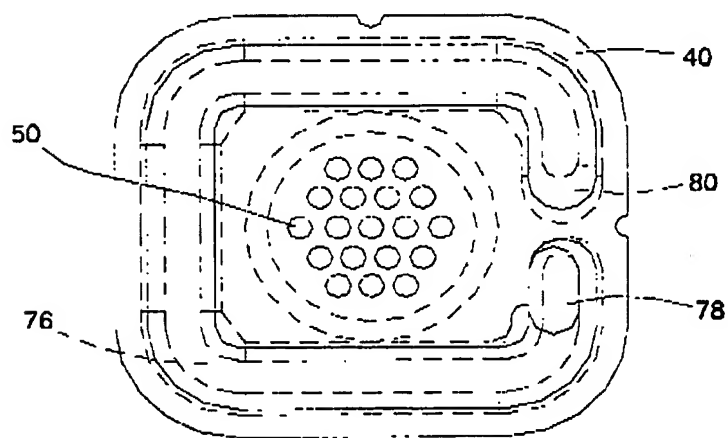


FIG. 2

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#### 7. ISSUE

Are claims 1-18, calling for a generally planar diaphragm having an enlarged central node and a periphery, the central node being in constant contact with the upper orifice plate and in contact with the lower orifice plate, and the periphery being spaced apart from at least one of the upper or lower orifice plates and free to move between the upper orifice plate and the lower orifice plate, unpatentable under 35 U.S.C. 103(a) over Yamamoto's disclosure of a periphery of the decoupler spaced apart from the plates in view of Hein's disclosure of an engine mount having a decoupler spaced apart from the partitions to allow free movement?

#### 8. GROUPING OF CLAIMS

Claims 1-18 should be considered as two groups.

Group I includes claims 1-5, 7, 14-16, and 18. Group I stands or falls with claim

1.

Group II includes claims 6, 8-13, and 17. Group II stands or falls with claim 8.

#### 9. ARGUMENTS

Claims 1-18, calling for a generally planar diaphragm having an enlarged central node and a periphery, the central node being in constant contact with the upper orifice plate and in contact with the lower orifice plate, and the periphery being spaced apart from at least one of the upper or lower orifice plates and free to move between the upper orifice plate and the lower orifice plate, are patentable over Yamamoto's disclosure of a periphery of the decoupler spaced apart from the plates in view of Hein's disclosure of an engine mount having a decoupler spaced apart from the partitions to allow free movement.

The rejection of claims 1-18 as unpatentable over Yamamoto in view of Hein under 103(a) is traversed. For this 103(a) rejection to stand, each and every element of the claimed invention must be taught or suggested by the references themselves, and there must be some motivation or suggestion to combine the references, *in the references themselves*, to arrive at the claimed invention.

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Group I and II each require that the periphery of the diaphragm be spaced apart from at least one of the orifice plates. The diaphragm of Group II features a raised rim at the periphery that is not included in the elements of Group I, and for that reason, Groups I and II are separated. For clarity, Groups I and II will largely be treated simultaneously in this brief. However, both Groups feature the enlarged central node of the diaphragm in contact with at least one of the orifice plates, and the periphery of the diaphragm is spaced apart from the orifice plates – features that are neither taught nor suggested by the prior art.

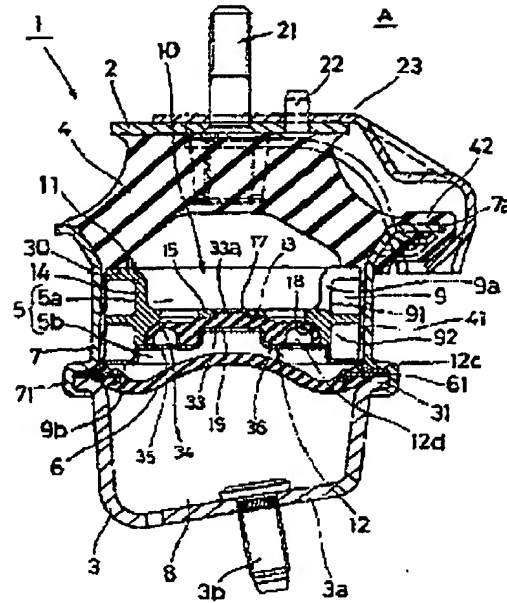
There is no suggestion in Yamamoto in view of Hein to modify as suggested by the Examiner, and there is no motivation provided. In order to prove a prima facie case of obviousness, the Examiner is required to provide affirmative evidence to support such a position. As the Examiner is well aware, the motivation to modify or combine must come from the references themselves. See MPEP 2143.01. A conclusory allegation that “[i]t would have been obvious to one of ordinary skill in the art to have spaced apart the periphery of the decoupler of Yamamoto et. al. in view of the teaching of Hein et. al. so as to allow for different degrees of damping for different oscillations as taught by Hein et al.” entirely fails to meet the Examiner’s evidentiary burden to prove a prima facie case. The motivation to combine or modify *cannot* come from the Examiner, without the taking of Official Notice, or preparation of an Examiner’s Affidavit. Without some evidence of a motivation to combine, this rejection cannot stand.

Indeed, neither reference teaches nor suggests spacing apart the periphery of the diaphragm. Both cases teach that the diaphragm is sealed against the mount. Both Hein and Yamamoto feature diaphragms that feature a periphery that is not spaced apart from the plates. See diaphragm 6 in FIG. 1 of Yamamoto (reproduced below), and column 7 lines 4-59. At lines 50-51 of column 7, Yamamoto specifically teaches and discloses that the diaphragm is press-fitted or inserted into annular support fitting 61, attaching the periphery of the diaphragm to the mount. Hein discloses that the diaphragm 32 (FIG. 2, reproduced below) is sealed against the partition assembly 28 by tabs 36. See Hein column 3, lines 33-48.

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FIG. 1 of Yamamoto:

FIG. 1







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Additionally, as described in the Graham case, the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention. See Graham v. John Deere Co., 383 U.S. 1 (1965). In this case, the Examiner appears to have engaged in impermissible hindsight, as there is a void of evidence around the Examiner's allegation of obviousness. In view of the fact that the Examiner was entirely unable to support the allegation of obviousness with a citation to *either* Yamamoto or Hein, the Examiner's use of impermissible hindsight is apparent.

A section 103 rejection is not proper if the suggested modification of the reference destroys the intent, purpose or function of the invention disclosed in the reference. See, In Re Gordon, 733 F.2d 900, 902 (Fed. Cir. 1984). In the instant case, the diaphragm 60 is spaced apart from the orifice plates 20, 40 at its periphery and includes an enlarged central node 82. As stated on page 5 of the instant specification, the node 82 provides stiffness to the diaphragm 60 and the raised rim 88 minimizes contact area with the orifice plates 20, 40. A visual inspection of FIG. 1 illustrates this contact area - the periphery of the diaphragm only contacts the plates 20, 40 at the raised rim 82. The periphery is spaced apart from the orifice plates to minimize contact at the periphery and thus minimize noise produced by the diaphragm contacting the orifice plates.

In Gordon, a blood filter assembly that had both intake and discharge of blood at the bottom of the filter was rejected as obvious over a reference disclosing a gasoline filter with the inlet and outlet of the gasoline at the top of the filter. Although the Board had deemed the blood filter obvious by arguing that the reference filter need only be turned upside down, the Federal Circuit held that the true standard was whether "it would have been obvious from a fair reading of the prior art reference as a whole to turn the prior art apparatus upside down."

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The Examiner likens the Hein decoupler 38 with the diaphragm 60 of the instant case, a likeness that fails on its face. First, the Hein decoupler 38 "can be made of a suitable plastic" and "is mounted within the partition assembly 28 for controlling fluid flow against the flexible diaphragm 32..." Hein, column 3, lines 43-48. Note that Hein itself distinguishes between the decoupler and a diaphragm. The instant case features an "elastomeric diaphragm 60" (page 4, lines 1-2) and "is adapted to be captured between upper orifice plate 40 and lower orifice plate 20" (page 4, lines 18-19). Second, the structures compared by the Examiner are not similar and perform different functions. While Hein does show an enlarged central node of the decoupler, the decoupler and the diaphragm are different structures. Furthermore, the enlarged central node of Hein is not in constant contact with orifice plates. Rather, the enlarged central node of Hein is spaced apart from the plates.

Likewise, in the instant application, the Examiner argues that the decoupler 38 of Hein is spaced apart from the partitions, allegedly making it obvious to space apart the diaphragm 6 of Yamamoto. However, there is simply no fair reading of the references that would teach or suggest modifying a diaphragm in a fashion consistent with the instant claims. The decoupler of Hein is a different structure than the instant diaphragm, and the decoupler of Hein does not have a periphery spaced apart from the partitions. One of ordinary skill in the art would not have been motivated to modify the diaphragm of Yamamoto in light of the teaching that the central portion of the decoupler of Hein is spaced apart.

Indeed, the Examiner seems to be arguing that spacing apart the central node of the diaphragm is equivalent to spacing apart the periphery. Yet, the instant application cannot work as intended with the central node spaced apart from the orifice plates. Any modification that would render the instant claims unworkable cannot be an obvious modification.

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In addition, the problems solved by the instant invention existed in the art at the time of the invention despite the disclosures of Yamamoto and Hein. It was the inventors herein that provided a diaphragm with an enlarged central node in constant contact with orifice plates and with its periphery spaced apart from the plates to quiet noise emanating from the mount. See In Re Ratti, 270 F.2d 801, 812 (CCPA 1959). The suggested combination of Yamamoto and Hein would require a substantial reconstruction and redesign of the elements shown as well as a change in the basic principle under which the construction of the references is designed to operate, and is not a proper ground for a 103(a) rejection.

The Yamamoto structure, according to column 7, lines 3-21 features a diaphragm portion 34 that assumes a generally inverted U-form and "has a curved configuration that nearly corresponds to the radius or curvature part 11a bulging out toward the inner peripheral surface of the annular wall section 14 of the orifice member..." Shaping the periphery of the diaphragm portion to *closely match* the curves of an orifice plate directly contrasts with shaping the diaphragm to be *spaced apart* from the orifice plate. Modifying the Yamamoto device as suggested by the Examiner would require significant modification and would require significant redesign – a requirement in direct contrast to the mandates of Section 103(a). See, In Re Ratti. Construction of the diaphragm as disclosed by Yamamoto is one attempt at minimizing contact between the diaphragm and orifice plates by matching their shapes to be complementary. As stated by Yamamoto, shaping the diaphragm to complement the curves of the orifice plate enhances "the effect of precluding the generation of abnormal sound accompanied with sliding displacement." Spacing the periphery of the diaphragm away from the orifice members is in direct contrast to the teachings of Yamamoto, and would destroy the fundamental intent, purpose, function, and principle of operation. Yamamoto cannot be used to support a 103(a) rejection. See, In Re Gordon.

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Thus, Group I is patentable over the combination of Yamamoto and Hein. Group II is further patentable over the combination because the combination does not teach or suggest that the periphery of the diaphragm include a raised rim. The same arguments apply to Groups I and II, but each Group should be treated on its own.

The 103(a) rejections to Groups I and II must fall as the references do not teach or suggest each and every element of the claimed invention, and there is no motivation or suggestion to combine in the prior art. Additionally, the Examiner appears to have engaged in impermissible hindsight.

Withdrawal of the rejections of claims 1-18 is requested.

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**CONCLUSION**

The Appellants respectfully submit that claims 1-18 fully satisfy the requirements of 35 U.S.C. §§102, 103 and 112. In view of the foregoing, favorable consideration and early passage to issue of the present application is respectfully requested.

Dated: January 9, 2004

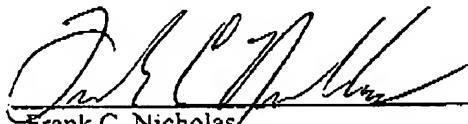
Respectfully submitted,  
JACK R. KRIES, *et al.*

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## 10. APPENDIX

- 1 (Previously presented) A powertrain mount comprising:  
an upper orifice plate;  
a lower orifice plate; and  
a generally planar diaphragm having an enlarged central node and a periphery,  
the central node being in constant contact with the upper orifice plate and in contact with  
the lower orifice plate, and the periphery being spaced apart from at least one of the up-  
per or lower orifice plates and free to move between the upper orifice plate and the  
lower orifice plate.
2. (Original) The powertrain mount of claim 1 wherein the upper orifice  
plate includes a plurality of holes through which fluid may flow.
3. (Original) The powertrain mount of claim 2 wherein the holes have a  
generally circular cross-section.
4. (Original) The powertrain mount of claim 1 wherein the lower orifice  
plate includes a plurality of holes through which fluid may flow.
5. (Original) The powertrain mount of claim 4 wherein the holes have a  
generally circular cross-section.
6. (Original) The powertrain mount of claim 1 wherein the periphery of the  
diaphragm includes a raised rim.

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7. (Original) The powertrain mount of claim 1 wherein the upper and lower orifice plates define an orifice track.

8. (Previously presented) A powertrain mount comprising:  
an upper orifice plate;  
a lower orifice plate; and  
a generally planar diaphragm having an enlarged central node and a periphery, the central node being in constant contact with the upper orifice plate and in contact with the lower orifice plate, and the periphery having a raised rim that is spaced apart from at least one of the upper or lower orifice plates and free to move between the upper orifice plate and the lower orifice plate.

9. (Original) The powertrain mount of claim 8 wherein the upper orifice plate includes a plurality of holes through which fluid may flow.

10. (Original) The powertrain mount of claim 9 wherein the holes have a generally circular cross-section.

11. (Original) The powertrain mount of claim 8 wherein the lower orifice plate includes a plurality of holes through which fluid may flow.

12. (Original) The powertrain mount of claim 11 wherein the holes have a generally circular cross-section.

13. (Original) The powertrain mount of claim 8 wherein the upper and lower orifice plates define an orifice track.

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14. (Previously presented) A powertrain mount comprising.  
an upper orifice plate having a plurality of holes through which fluid may flow;  
a lower orifice plate having a plurality of holes through which fluid may flow;  
and  
a generally planar diaphragm having an enlarged central node and a periphery,  
the central node being in constant contact with the upper orifice plate and in contact with  
the lower orifice plate, and the periphery being spaced apart from at least one of the up-  
per or lower orifice plates and free to move between the upper orifice plate and the  
lower orifice plate.

15. (Original) The powertrain mount of claim 14 wherein the holes in the  
upper orifice plate have a generally circular cross-section.

16. (Original) The powertrain mount of claim 14 wherein the holes in the  
lower orifice plate have a generally circular cross-section.

17 (Original) The powertrain mount of claim 14 wherein the periphery of  
the diaphragm includes a raised rim.

18. (Original) The powertrain mount of claim 14 wherein the upper and  
lower orifice plates define an orifice track.



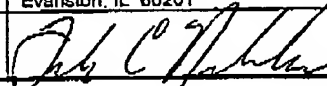

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	Filing Date	MARCH 6, 2002
	First Named Inventor	JACK R. KRIES
	Group Art Unit	3683
	Examiner	GRAHAM, MATTHEW

ENCLOSURES (check all that apply)		
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First Presentation of Multiple Dep. Claim				+ \$145=		+ \$280=	
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